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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,368	07/23/2003	Donato L. Ricci	20020577.ORI	8231
23595	7590	05/03/2005	EXAMINER	
NIKOLAI & MERSEREAU, P.A. 900 SECOND AVENUE SOUTH SUITE 820 MINNEAPOLIS, MN 55402			BLAKE, CAROLYN T	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,368	RICCI, DONATO L.	
	Examiner	Art Unit	
	Carolyn T Blake	3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 1-5 and 14 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-3 and 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. In view of the amendment filed on January 13, 2005, the Restriction Requirement is withdrawn.

Specification

2. The disclosure is objected to because of the following informalities:
 - Page 1, line 9: "Steel pipes, which carries" should be changed to - -Steel pipes, which carry- -.
 - Page 4, line 13-14: "adjusted as the wear" should be changed to - -adjusted as they wear- -.
 - Page 4, line 25: There are two periods at the end of the sentence. One should be deleted.
 - Page 4, line 28: There are two periods at the end of the sentence. One should be deleted.
 - Claim 2, part (a) recites, "a first and second bevel gear wherein the first bevel gear rotates on an axis perpendicular to an axis of the drive shaft and the second bevel gear rotates on the axis of the drive shaft, wherein rotation of the first bevel gear transfer rotational motion to the drive shaft." However, this is inconsistent with numbering of the first and second bevel gears in the specification. If the specification is amended to reverse the reference numbers of the first and second bevel gears, this inconsistency will be eliminated.

Appropriate corrections are required.

3. The use of the trademark TIMKEN has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

4. Claim 1 is objected to because of the following informalities: "the cutting blade" (line 8) lacks proper antecedent. Appropriate correction is required.
5. Claim 2 is objected to because of the following informalities: "the first and second gears" (line 8-9) should be changed to - the first and second helical gears- - in order to avoid confusion. Appropriate correction is required.
6. Claim 3 is objected to because of the following informalities: the phrase "the one threaded end" (lines 9-10) lacks proper antecedent. Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Blank (3,709,624).

Regarding claim 1, Blank discloses a slitting saw used to cutting an opening in a pipe comprising: a housing (2); a cutting blade apparatus (12); and a drive assembly enclosed in the housing (2) for rotating said cutting blade apparatus (12), the drive assembly including a gear train including a series of shafts including a drive shaft (28), idler shaft (74), and a cutter shaft (110) each of said shafts being journaled in bearings (42,46,78,94,120,122) for rotation in said housing wherein a cutting blade (16) is operatively coupled to the cutter shaft (110), said drive assembly further including a drive motor (4) for rotating the gear train.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blank as applied to claim 1 above, and further in view of Hendrick (4,585,025) and Johnson (1,937,965). Blank discloses a first gear (bevel gear 32) mounted on the drive shaft (28) and coupled in driving relation to a second gear (bevel gear 72) mounted on the idler shaft (74) wherein the first and second gear mesh so as to impart rotation to the idler shaft (74); and a third helical gear (76) mounted on the idler shaft (74) and a fourth helical gear (100) mounted on the cutter shaft (110) and meshing with the third helical gear (76) so as to transfer rotational motion from the idler shaft (74) to the cutter shaft (110). Blank fails to disclose a first and second bevel gear. However, Hendrick

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discloses the inclusion of additional gears in the gear train creates a greater mechanical advantage (col. 3, lines 38-41). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide additional gears to the gear train, as disclosed by Hendrick, on the Blank device for the purpose of creating a greater mechanical advantage. In addition, Blank fails to disclose a first and second helical gear, but rather discloses bevel gears. Johnson discloses helical gears can be used on perpendicular shafts. Helical gears are strong and quiet while in motion (col. 1, lines 6-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a first and second helical gear, as disclosed by Johnson, on the Blank device because helical gears can be used on perpendicular shafts and are strong and quiet.

Regarding claim 3, Blank discloses the drive shaft (28) has one threaded end and is journaled for rotation in said housing (2) by a first (42) and second (48) bearing where the first and second bearings are mounted proximate opposite ends of the drive shaft (28); a first spacer (54) mounted on the drive shaft between the first bearing (42) and first gear (32); the second bearing (48) is held on the drive shaft (28) by a washer (58) and nut (56) screwed on the one threaded end. The Blank Hendrick-Johnson combination fails to disclose a second spacer. However, Official Notice is taken it is old and well known in the art to use a spacer in order to separate gear train components, causing the components to operate smoothly. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an

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additional spacer on the Blank-Hendrick-Johnson combination for the purpose smooth gear train operation.

Regarding claim 4, Blank discloses the idler shaft (74) is journaled for rotation by a third (94) and fourth (84) wear adjustable bearing where the third bearing (94) is mounted at the base of the idler shaft (74) and the fourth bearing (84) is mounted on the top of the idler shaft (74); a spacer (80) is mounted between the top of the third gear (72) and the fourth bearing (84) so that the fourth bearing (84) is properly aligned; and the fourth bearing (84) is fastened on the idler shaft (74) by a fastener (90) and seal (88). However, Blank fails to disclose the fastener is a nut and the seal is a washer. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to use a washer and nut instead of a snap ring and wiper seal because Applicant has not disclosed the washer and nut provide an advantage, are used for a particular purpose, or solve a states problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a snap ring and wiper seal because both sets of components are used to fasten and seal. Therefore, it would have been an obvious matter of design choice to modify Blank to obtain the invention as specified in claim 4.

Regarding claim 5, Blank discloses the cutter shaft (11) is journaled for rotation by a fifth (122) and sixth (104) wear adjustable bearing where the fifth bearing (122) is mounted adjacent the fourth helical gear (100); a spacer (109) is placed between the fourth helical gear (100) and the sixth bearing (104) so as to align the third helical gear

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(76) and fourth helical gear; and the sixth bearing (104) is fastened to the cutter shaft by a washer (102).

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blank as applied to claim 1 above, and further in view of Esmailzadeh (5,709,511). Blank fails to disclose an electric, pneumatic, or hydraulic motor. However, Esmailzadeh discloses an electric motor for use in a device similar to the Blank device. Electrical motors are advantageous because they are universally used and widely available. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an electric motor, as disclosed by Esmailzadeh, on the Blank device because electric motors are widely available.

Allowable Subject Matter

12. Claims 6-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Leeuw (974,036), Russel (1,830,810), Archea (1,976,107), Armitage (2,342,829), Hengehold (3,232,171), and Summita et al (6,862,946) disclose devices with gear trains comprising several shafts.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carolyn T Blake whose telephone number is (571) 272-

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4503. The examiner can normally be reached on Monday to Friday, 8:00 AM to 5:30 PM, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CB

April 29, 2005



Allan N. Shoap
Supervisory Patent Examiner
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